

REMARKS

Claims 1-30 have been canceled without prejudice or disclaimer. Claims 31-52 have been added and therefore are pending in the present application. Claims 31-52 are supported by claims 1-30.

Figure 1, which was inadvertently omitted when filing this application, has been added. This figure is supported by application no. 09//174,956, the benefit of which is claimed under 35 U.S.C. 120.

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

I. The Rejection of Claims 1-6, 10-11, 15, 17, 18, 20 and 22 under 35 U.S.C. 112

Claims 1-6, 10-11, 15, 17, 18, 20 and 22 are rejected under 35 U.S.C. 112 as being indefinite. Specifically, the Office Action objected to the term "enhancing agent" because "it is unclear what the scope of this term is." This rejection is respectfully traversed.

Applicants submit that one of ordinary skill in the art would understand that this term encompasses any compound that enhances the activity of a *Coprinus* peroxidase. The specification discloses a significant number of such enhancers.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 112. Applicants respectfully request reconsideration and withdrawal of the rejection.

II. The Rejection of Claims 1-6, 15, 17, 18, 20 and 22 under 35 U.S.C. 112

Claims 1-6, 15, 17, 18, 20 and 22 are rejected under 35 U.S.C. 112 "as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention." Specifically, the Office Action stated the following:

These claims are directed to a genus of methods of killing or inhibiting microorganisms using an antimicrobial composition comprising an enhancing agent and a peroxidase. The specification teaches the structural features defining several sub-genuses of such enhancing agents (i.e., those defined in Claims 8 and 10) and the structures of several specific species within these sub-genuses of such enhancing agents. However, the specification fails to describe any other representative species outside of these sub-genuses by any identifying characteristics or properties other than the functionality of being an 'enhancing agent'. Furthermore, the specification teaches only a single representative

peroxidase useful in the methods as claimed and the specification fails to describe any other representative species of peroxidase by any identifying characteristics or properties other than the functionality of being a peroxidase.

This rejection is respectfully traversed.

It is well settled that the test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the claimed subject matter. *In re Kaslow*, 217 USPQ 1089, 1096 (Fed. Cir. 1983).

As set forth in Federal Circuit decisions, a specification complies with the written description requirement if it provides "a precise definition, such as by structure, formula, chemical name, or physical properties of the claimed subject matter sufficient to distinguish it from other materials." See, e.g., *University of California v. Eli Lilly and Co.*, 43 U.S.P.Q.2d 1398, 1404 (Fed. Cir. 1997); *Enzo Biochem v. Gen-Probe Inc.*, 63 U.S.P.Q.2d 1609, 1613 (Fed. Cir. 2002).

Applicants submit that the specification complies with the written description requirement.

The claimed invention is drawn to methods of killing or inhibiting a microorganism, comprising contacting said microorganism with a composition comprising a peroxidase produced by or derived from *Coprinus* and a hydrogen peroxide or a source of hydrogen peroxide. The specification describes a DNA sequence encoding a *Coprinus* peroxidase and one of ordinary skill in the art would appreciate that other *Coprinus* peroxidases would have homologous amino acid sequences. The specification also describes a number of peroxidase enhancing agents. Applicants therefore submit that the specification of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the claimed subject matter.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 112. Applicants respectfully request reconsideration and withdrawal of the rejection.

III. The Rejection of Claims 1-6, 10-11, 15, 17, 18, 20, and 22 under 35 U.S.C. 103

Claims 1-6, 10-11, 15, 17, 18, 20, and 22 are rejected under 35 U.S.C. 103 as being unpatentable over Johansen (WO 96/06532) in view of Schneider et al. (WO 96/10079). This rejection is respectfully traversed.

Johansen discloses compositions capable of killing microbial cells or inhibiting microorganisms. The component which kills or inhibits the microorganisms is a basic protein or peptid of biological origin, e.g., protamine or protamin sulphate. Johansen further discloses that

the composition may further comprise a cell wall degrading enzyme and/or an oxidoreductase such as a peroxidase.

In Example 3, Johansen compares the effect of protamine and several enzymes. One of the components tested was a peroxidase enzymes system (i.e., lactoperoxidase/glucose oxidase, labeled "C". The results show that the peroxidase enzyme system was not effective in killing or inhibiting microorganisms. Applicants therefore submit that Johansen does not teach or suggest the use of peroxidase systems for killing or inhibiting microorganisms.

Moreover, the instant specification shows that *Coprinus* peroxidases do have a significant effect in killing or inhibiting microorganisms. See, e.g., the results on page 46 in the specification. These results are surprising and unexpected.

Schneider et al. disclose peroxidase systems comprising an enhancer.

However, Schneider et al. also do not teach or suggest the use of peroxidases to kill or inhibit microorganisms.

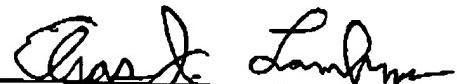
For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 103. Applicants respectfully request reconsideration and withdrawal of the rejection.

IV. Conclusion

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,

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